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THE HERPETOLOGICAL FAUNA OF THE SALAMA
BASIN, BAJA VERAPAZ, GUATEMALA

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Although the plateau of Guatemala, the Pacific coast, and the mountains of Alta Verapaz have received considerable attention from herpetologists both in the past and again more recently, the arid interior basins and the desert of the upper Motagua River valley have remained almost untouched. This is surprising when one considers the fact that here lies a large area of tropical desert hemmed in on all sides by cloud forests, high plateaus, and tropical rain forests, and constituting, as it does, a biotic province of considerable extent and importance. Stejneger's description of *Ctenosaura palearis* (1899, p. 381) from Gualán in the Motagua Valley has long afforded a suggestion of distinctive faunal elements in this region.

Recently both authors have visited these areas and have been fortunate enough to secure two small collections from the Salamá Basin, one of the largest of the chain of interior desert basins lying north of the Motagua River. Although these collections are not rich with respect to either species or individuals, they are of considerable importance when viewed in the light of our lack of information on those regions, and the following report is presented as a study of a special area, probably typical of the isolated desert basins extending from San Gerónimo in Baja Verapaz westward to Sacapulas in El Quiché. The first collection was assembled by Mr. Emmet R. Blake in April, 1934, when he visited Salamá as a member of the Mandel Guatemalan Expedition of Field Museum of Natural History under the direction of the senior author, and the second was made in July, 1938, by the junior author when he was carrying on investigations under

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the auspices of the Museum of Zoology of the University of Michigan and the Carnegie Institution of Washington.

The Salamá Basin is only one of a series of basins which, though separated from each other, are identical in structure, climate, and, superficially at least, in flora and fauna. The junior author has visited briefly those in which Salamá, Rabinal, and Chicaj (San Miguel) lie, though collections were made only in the first, and except for size, the first named being by far the largest, could see no appreciable differences in them. The Salamá Basin has been formed by the Salamá River and its tributaries, which have cut back into the schists which form a high east-west ridge north of the Motagua River. This ridge is known, to the east of Salamá, as the Sierra de las Minas and, to the west, as the Sierra de Chaucus. The valley itself has an east-west trend, sloping towards the west, and is approximately ten kilometers long and not more than four or five kilometers wide. The valley floor has an elevation of about 900 meters at Salamá and is about 100 meters higher at San Gerónimo. Surrounding this valley on the east, west, and south are the schist ridges mentioned above that rise 500–700 meters above the valley floor, while the north side of the valley is walled off by a ridge of serpentine of approximately the same height, through which the Salamá River has cut. The valley floor presents a gently undulating surface covered with quaternary alluvium ranging from sand to coarse gravel and talus. The surrounding mountain slopes are either barren rock outcrops or are covered at most with a thin mantle of gravel and are cut by numerous arroyos which join to form the Salamá River.

The climate is distinctly arid, contrasting greatly with the humid forest of Alta Verapaz directly to the north. At Salamá over a period of seven years the average annual rainfall is given by Sapper (1932, Tab. 1) as 764 mm. The driest months are January and February during which no rain falls, and the wettest are June and October with 233 mm. and 92 mm. of precipitation, respectively. The average annual temperature is 22.6° C., May being the hottest month with a temperature of 25.3° C. and January the coldest with 19.9° C. During the junior author's stay at San Gerónimo, July 5–10, 1938, the highest temperature recorded was 28° C. and the lowest 17° C. During the same period, afternoon and night rains of considerable intensity but of short duration were recorded on four of the six days. Precipitation was sufficient to form many temporary pools on the valley flats in which great numbers of amphibians were found breeding.

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FIG. 21. The Salamá Basin from above San Gerónimo, looking northwest.



FIG. 22. The more arid northwestern end of the Salamá Basin, below Salamá.

The vegetation of the valley floor has been considerably altered owing to cultivation, especially in the vicinity of San Gerónimo, where cane is grown in considerable quantities. Corn, cultivated on the *milpa* plan, is also extensively grown throughout the valley. In the areas of poorer soils where the vegetation is probably more or less virgin, short grass predominates, while cactus of the prickly-pear variety is common, and low scrubby bushes and the *nance* tree are all indications of aridity. Roads are lined with larger species of cacti and these are often used to form cultivated fences around dwellings. The lower mountain slopes are also well cultivated or covered with dense second growth. At higher altitudes, pine predominates, usually mixed with oak. The mountain slopes to the northeast, where the Salamá River rises, are covered with nearly pure stands of oak. On the highest part of the southern ridge, cloud forest conditions prevail, and the trees, though still oak and pine, are hung with moss and covered with epiphytic plants.

Birds and insects in the Salamá Basin have been the chief aim of the several naturalists who have studied it. San Gerónimo was a famous collecting locality of Champion and his patron Salvin. Later Owen and Hague sent collections to both England and the United States from that region. As a result we are not wholly in the dark as to the faunal affinities of this entire interior desert region. Godman (1915, p. 47) believes that they must be treated either as a division of the Guatemalan highland or must be considered as a separate faunal entity. More recently Griscom (1932, pp. 35-36) believes they represent merely a subdivision of a Central American Arid Zone, in which he may be correct, granting his premises. But in so far as Guatemala is concerned, these interior deserts constitute a faunal province of major importance. The nearest corresponding area to the east is at Comayagua, Honduras.

Our present knowledge seems to indicate that Guatemala, herpetologically at least, is made up of seven biotic provinces: the Pacific coastal area, the Pacific escarpment with its associated volcanoes, the plateau and its non-volcanic ridges, the karst mountains of Alta Verapaz, the Sierra de los Cuchumatanes, the Petén and Lake Yzabal lowlands, and the central desert region.¹ This latter will, largely on the basis of presence and absence of certain forms owing to altitude, undoubtedly have to be subdivided into two

¹ The Sierra de las Minas and the Sierra de Merendon are too poorly known to be placed in this biogeographic scheme. It is suggested that while they may demark provincial boundaries, their extensive cloud forests may constitute additional biotic provinces.

separate subprovinces, namely, the upper Motagua Valley (here referred to as the "Zacapa Desert") and the interior desert basins. Certainly it will not fit into Godman's scheme, for such common plateau items as the numerous salamanders, *Bufo bocourti* Brocchi, *Anolis uniformis* Cope, *Sceloporus formosus smaragdinus* Bocourt, and *Trimeresurus godmani* Günther are lacking in this area, while the seasonally arid Pacific coast and the escarpment above it, if the senior author's earlier deductions are correct (Schmidt, 1936, pp. 138-146), represent two quite different faunas, and the humid mountains of Alta Verapaz and the Petén and Caribbean lowlands have, of course, a totally different assemblage. Moreover, the collections before us have revealed two species which are known only from specimens secured in this region. They are *Hypopachus championi* Stuart and *Gymnophthalmus birdi* Stuart. Until further material is forthcoming from many of the biologically unexplored regions of Guatemala, it seems futile to extend this discussion.

The following is a list of the species which are recorded from the Salamá Basin:

<i>Bufo microtis</i> Werner	<i>Cnemidophorus deppii deppii</i> Wiegmann
<i>Bufo marinus</i> Linnaeus	<i>Cnemidophorus sackii</i> Wiegmann
<i>Hyla baudinii</i> Duméril and Bibron	<i>Gymnophthalmus birdi</i> Stuart
<i>Hyla staufferi</i> Cope	* <i>Thamnophis scalaris</i> Cope
<i>Eleutherodactylus rugulosus</i> Cope	* <i>Storeria dekayi</i> Holbrook
<i>Rana macroglossa</i> Brocchi	* <i>Masticophis mentovarius</i> Duméril and Bibron
<i>Rana pipiens</i> Schreber	* <i>Drymarchon corais melanurus</i> Duméril and Bibron
<i>Hypopachus championi</i> Stuart	* <i>Lampropeltis triangulum polyzona</i> Cope
* <i>Phyllodactylus tuberculosus</i> Wiegmann	* <i>Xenodon rhabdocephala</i> Wied
<i>Basiliscus vittatus</i> Wiegmann	<i>Stenorrhina degenhardtii</i> Berthold
<i>Sceloporus lunaei</i> Bocourt	<i>Leptodeira rhombifera</i> Günther
<i>Sceloporus variabilis olloporus</i> Smith	
<i>Ameiva undulata</i> Wiegmann	

* An asterisk indicates that we have not seen this species from the Salamá Basin. The species so marked have, however, been recorded by Günther (1885-1902).

To this may be added *Gerrhonotus moreletii* Bocourt, *Leptophis modestus* Günther, and *Geophis chalybaeus* (Wagler), which Günther (loc. cit.) reports from the Cubulco Basin to the west.

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Bufo marinus Linnaeus

San Gerónimo, UMMZ 84084 (4), 84085.

Abundant throughout the basin and occurring in very great numbers within San Gerónimo.

Bufo microtis Werner

San Gerónimo, UMMZ 84083.

Both *Bufo marinus* and the specimen which we are tentatively referring to *B. microtis* were common along ditches and on the desert flats near San Gerónimo in the evenings, especially following rains. Unfortunately, the junior author assumed the species to be *Bufo valliceps* and collected but a single specimen as a record. An examination of this specimen reveals that it lacks the lateral row of tubercles so characteristic of *valliceps*, has a comparatively smaller tympanum, and possesses extremely prominent crests. An emaciated specimen from Morazán (in the "Zacapa Desert" region) collected by the senior author shows these same characteristics. Since Werner (1896, p. 350) described *Bufo valliceps* var. *microtis* as lacking the row of lateral tubercles and having a relatively small tympanum, we are referring the above specimens to that name and according it specific rank.

Werner's specimen originated in Honduras where areas remarkably similar to the one under discussion are known to occur. That a form of *Bufo* other than *valliceps* occurs in the more arid portions of Central America is very probable. In collecting in various parts of Guatemala the junior author has noted in a number of instances that any local pocket which approaches arid conditions lacks *Bufo valliceps*. This was found to be true in the region of Sacapulas on the upper Río Negro, at La Primavera in a savanna country in the gorge of the Río Negro just north of the Salamá Basin, and in the local savannas near Cahabón in Alta Verapaz.

In any case the interpretation of *microtis* as a Central American subspecies of *valliceps* is untenable.

Hyla baudinii Duméril and Bibron

San Gerónimo, UMMZ 84076 (16).

This variable and widespread species was found in great abundance, breeding in temporary pools in the *potreros* to the south of San Gerónimo on the nights of July 6 and 8, 1938, following heavy afternoon rains. *Hypopachus championi* occurred in great numbers in the same pools.

Hyla staufferi Cope

San Gerónimo, UMMZ 84077 (7), 84078 (14).

Our series of 21 specimens agree well, in all characters, with material from Tamaulipas, Oaxaca, Campeche, and El Petén, and we concur with Smith (1938, pp. 9–10) in relegating *Hyla culex* Dunn and Emlen to the synonymy of this species. Unlike *Hyla baudinii* and *Hypopachus championi*, which were found breeding in temporary pools, *Hyla staufferi* was not collected in the water, but preferred to sing from the branches of the small acacia-like shrubs bordering the pools.

Eleutherodactylus rugulosus Cope

Salamá, FMNH 20670 (9).

The above specimens, except that they are not particularly rugose above, agree well with Kellogg's description (1932, pp. 116–117), and with University of Michigan material from Nicaragua. Specimens from the latter country have been compared with specimens in the collections of the United States National Museum and have been discussed in a previous paper (Gauge, Hartweg, and Stuart, 1937, pp. 5–6).

Rana macroglossa Brocchi

San Gerónimo, UMMZ 84073–84074, 84075 (6).

Kellogg (1932, pp. 203, 206–207) considers both *Rana macroglossa* and *Rana maculata* of Brocchi (1877, pp. 177–178) synonyms of *Rana pipiens* Schreber, though he questions the identity of one of the cotypes of the former. Günther (1900, pp. 198, 201–202) accepted *Rana maculata* as valid but gave no opinion as to the status of *Rana macroglossa* beyond pointing out that Brocchi's second description does not agree with his figures (1882, pp. 12–13, pl. 3, figs. 1–2). Brocchi's descriptions of the two are poor, in that only two diagnostic characters are presented to distinguish between the two species, namely, the size of the tongue and the arrangement of the vomerine teeth. For this reason it is difficult to decide which of Brocchi's names is applicable to the series at hand, for, as will be shown later, they possess characters in common with each of Brocchi's forms. One thing is certain—they are not to be confused with *Rana pipiens*. At Finca Samac, just west of Cobán, Alta Verapaz, both *pipiens* and specimens like the above were found living together along a small stream.

They may readily be distinguished from *pipiens* by the following characters: (1) More extensive webbing of the feet; (2) absence of

glandular, dorsal tuberosities between the lateral folds; (3) difference in dorsal pattern; and (4) smaller tympanum. Inasmuch as the identity of these specimens is questionable, it seems worthwhile to present a full description of them.

Head elongate with a moderately slender snout, 70–80 per cent as long as broad. Tympanum about one-half the diameter of the eye, though occasionally slightly larger; diameter of the eye greater than the distance from the eye to the nostril. The nasal region oblique, the canthus rostralis rounded, and the loreal region considerably depressed. The tongue is large and rounded with moderately large cornua and is slightly indented on its anterior margin. Vomerine teeth in two rounded or slightly oblique series between the choanae. The first finger is decidedly longer than the second and is swollen at the base. The extended hind leg reaches to a point between the eye and the end of the snout. The webbing on the feet is broad and extends about one-half the distance up the antepenultimate phalange of the fourth toe, and continues as a narrow fringe to the last phalange. The palmate tubercles are only slightly developed, and the tubercle at the base of the fourth toe is feeble.

The skin of the back and the upper surface of the legs is pustular. Dorsally, the ground color of the head and back is olive-green in life and greenish gray in spirits. On the back are numerous, irregular, dark spots which become fainter anteriorly and often completely disappear on the head. A distinct, white, pineal spot is present at the level of the anterior margin of the eyes. Laterally the head shows a distinct, black line extending from the tip of the snout, through the nostril and eye, and curved around and behind the tympanum, which is light brown. A conspicuous white glandular line extends obliquely from the tip of the snout posteriorly below the eye, and across the angle of the mouth to the level of the arm insertions. The upper and lower lips are gray, marbled with white. The dorso-lateral folds are white or gray and extend from the posterior margin of the eye almost to the anus. These folds are bordered above and below by a diffused dark line. The flanks are light gray (in spirits) and are generally lightly spotted with irregular dark dots with a few white punctations.

The upper surfaces of the arms are brownish gray, the upper arm slightly spotted with dark and the lower arm generally banded with black on their anterior faces. A conspicuous black bar is present on the under side of the shoulder. The legs are brownish gray, barred and spotted with black or gray above and marbled with darker

shades on their posterior surfaces. Beneath, all are light yellow (in life; white in spirits), either immaculate or with scattered brownish gray spots on the throat.

The maximum head-body length of these specimens is 46 mm. and the minimum 34 mm. Mrs. Helen T. Gaige of the University of Michigan Museum of Zoology has called our attention to the fact that they may not be fully adult. In comparing these specimens with the small lot from Finca Samac, several discrepancies are noted. These latter have smoother skin on the back and legs, a relatively narrower tongue, heavy brown stippling on the throat and chest in the males, and the lateral, glandular, white stripe on the head does not extend forward onto the snout. The darkened throat and chest are obviously a character of adult males, and Mrs. Gaige has suggested that in these the lateral white stripe on the head may be obscured during breeding activities. The pustulose condition of the skin in the San Gerónimo specimens may be a response to the arid conditions of the region as compared with the humid forests of the Cobán area.

In referring the above specimens to *macroglossa* we have been guided by several facts. In structural characters (arrangement of teeth, size of tongue, etc.), with the exception of the pustular skin, they approximate the description of *macroglossa*, while they deviate from that of *maculata*, which was described as having an angular canthus, obliquely arranged vomerine teeth, first and second fingers of about equal length, and less extensive webbing on the feet. In pattern they fit both descriptions fairly well, though Brocchi makes a special point of the glandular light stripe on the side of the head in *macroglossa*. The type localities are of no aid, *maculata* originating from the plateau of Guatemala (Totonicapam) and *macroglossa* being labeled merely "Guatemala." It is entirely possible that a comparison of the types with a large series from various localities may indicate that the two are synonymous. At the present, however, their status is uncertain, and it is only provisionally that we refer these specimens to *macroglossa*.

This species was most commonly observed at night in temporary pools in the *potreros* on the valley flats, though several specimens were taken in pools in the beds of arroyos on the mountain slopes.

Rana pipiens Schreber

Salamá, FMNH 20671-20672.

Although *Rana macroglossa* was taken from temporary pools on the valley flats and from arroyo pools in the mountains, this form

was seen at San Gerónimo only in very boggy spots along the small valley streams south of the town, where it was impossible to secure them. The above two specimens are from Salamá. We employ the name *pipiens* with reservation, since some geographic division of this form may prove recognizable with further study.

Hypopachus championi Stuart

San Gerónimo, UMMZ 84079 (42), 84080 (23), 84081 (41), 84082 (36), 85533 (type series), FMNH 31636–31639 (type series).

This recently described form has been fully discussed in the original description (Stuart, 1940, pp. 19–21). In early July it was abundant in temporary pools on the desert flats west of San Gerónimo, but the almost complete absence of females indicates that it had just emerged for breeding activities.

Basiliscus vittatus Wiegmann

San Gerónimo, UMMZ 84071–84072.

This lizard, common throughout Central America, occurred only sparingly at San Gerónimo, where it was observed only along the small streams in the valley flats.

Sceloporus lunaei Bocourt

Salamá, FMNH 20674–75; San Gerónimo, UMMZ 84064 (2), 84065, 84066 (3), 84067 (18), 84068 (3), 84069–84070.

The most common lizard in the region. At San Gerónimo it was very abundant in the valley, where it was found on the trees and stone walls along roads. It was met with occasionally on the lower mountain slopes, but in the oak-pine zone it is apparently replaced by *Sceloporus variabilis olloporus* Smith.

Sceloporus variabilis olloporus Smith

San Gerónimo, UMMZ 84061 (3), 84062 (4), 84063.

All the above are apparently typical and check well with the type description (Smith, 1937, pp. 11–13). The form is strictly saxicolous and never occurs on the valley floor. It seems to prefer large boulders in the dry arroyos of the oak-pine zone on the mountain slopes where it is met with only sparingly. *Sceloporus lunaei* replaces it on the valley flats.

Ameiva undulata Wiegmann

San Gerónimo, UMMZ 84048–84051.

In a recent paper Smith (1940, pp. 55–56) has initiated the recognition of certain geographic variants of the *undulata* group of

Ameiva, and somewhat earlier Hartweg and Oliver (1937, pp. 7-8) commented on the confusion existing within the group. To date, we have four subspecies of *undulata* named. These are typical *undulata*, ranging from Tehuantepec northward along the Mexican west coast, *parva*, which the junior author formerly misapplied to the Yucatán-El Petén form (1934, p. 11), ranging along the Pacific coast from Tehuantepec well into Guatemala, *hartwegi*, the form of Yucatan and El Petén, and *stuarti*, the common Veracruz and Tabasco race. Smith, though apparently misunderstanding the comment of Hartweg and Oliver, restricts typical *undulata* to the Tehuantepec form. It is unfortunate that Smith chose specimens from eastern Chiapas for his types of the last two races, for data available to us indicate that there is a broad region of intergradation between *stuarti* and *hartwegi* in that region. He has nevertheless selected specimens distinctly representative of the two races to serve as types. Though these four races are difficult to define, anyone familiar with *undulata* can hardly fail to recognize their validity.

Very recently Dunn (1940, pp. 114-115) notes that there is in southern Central America another form of the *undulata* group, *leptophrys* of Cope, and indicates that between Costa Rica and Guatemala other races are to be expected. Undoubtedly the next form above *leptophrys* will prove to be *pulchra* Hallowell from Nicaragua, specimens of which Barbour and Noble (1915, p. 475) have referred to *Ameiva undulata quadrilineata* Hallowell. From Honduras the junior author has also seen material, which if not the same, is certainly very close to *pulchra*.

The specimens which we have before us come from San Gerónimo and appear to be very similar to Honduran specimens. It is not improbable, therefore, that when all the material is assembled, the Zacapa Desert and interior basins form may warrant a subspecific name, but, lacking sufficient material, we hesitate to take this step. The specimens are also close to *parva* of the west coast and differ primarily in the greater number of vertical light bars on the sides.

This form occupies about the same habitat as *Cnemidophorus sackii* Wiegmann, but is less abundant. It is most frequently met with in the oak-pine zone on the lower mountain slopes and among the scrubby second-growth on the valley floor.

***Cnemidophorus deppii deppii* Wiegmann**

Salamá, FMNH 20673.

Our single adult specimen is extremely pale beneath and is quite similar to Tehuantepec material which has been discussed by Hart-

weg and Oliver (op. cit., pp. 1-3). It is lineate laterally, with no trace of bars or mottlings.

Cnemidophorus sackii Wiegmann

Salamá, FMNH 20677 (8); San Gerónimo, UMMZ 84052 (4), 84053, 84054 (2), 84055 (7), 84056 (3).

In assigning the above specimens to *sackii*, we concur with Taylor (1938, pp. 520-523), though we are by no means in accord with Burt (1931, pp. 97-121) that *sackii* (= *gularis*) can not be broken down into geographic races. While it is granted that many of the variable characters studied by Burt show no geographical correlation, an examination of material in the University of Michigan Museum of Zoology clearly indicates that certain features dismissed by Burt as "trivial" (op. cit., p. 102) require more critical consideration.

Taylor (loc. cit.) and more recently Smith (1938, p. 4) have suggested that populations from Sinaloa and Yucatan respectively show a tendency towards subspecific variation. Our data, while not conclusive, indicate that a number of races of *sackii* exist, and certainly, in the face of a complete absence of experimental data, we do not take seriously Burt's statement (op. cit., p. 101) that certain variations are purely a response to environmental conditions.

The above specimens are wholly unlike anything we have seen. Dorsally, the specimens are olive to olive-brown, somewhat lighter in the mid-dorsal region. Adults show no evidence of a striped pattern, but are irregularly punctated above and laterally with small, rounded yellow spots over the posterior two-thirds of the body, leaving the neck and shoulders without pattern. Laterally there is some slight evidence of the presence of the typical, ventral-most light stripe owing to a slight elongation of the light spots. The upper surfaces of the legs are likewise punctated with light spots. In a few specimens there is a tendency for some of the spots in the ventro-lateral region to elongate vertically to produce broken, vertical bars. In general, however, the specimens show a predominant pattern of sparsely scattered light spots on a darker background. The ventrum is dark blue over the posterior two-thirds of the body, leaving the chest, throat, and chin immaculate or nearly so. The postantebrachials are very small and only slightly larger than the surrounding granules, and the femoral pores vary from 17 to 22 with a mean of about 20.

In half-grown specimens the typical striped pattern is present, but this gives way to the spotted condition in specimens over 85

mm. in body length (our largest measures over 140 mm.). On the basis of the striped juvenile pattern, Burt (loc. cit.) emphasizes over and over again the conspecificity of all populations of *sackii*. This seems to us utterly ridiculous, as it is well known that the young of many species of animals of diverse groups exhibit very similar patterns, whereas the adults are quite different.

The closest approach to the above specimens is to be found in a population from San Luis Potosi, Mexico. But in these latter the postantibrachials are enlarged, and they possess a very dark chest and a light belly. Specimens from Colima, Mexico, are also spotted and, like those from Baja Verapaz, have an immaculate chest, but they are easily distinguished from our material by their enlarged postantibrachials and by the fact that the dorsal spots are larger and more numerous, and tend to arrange themselves in longitudinal series. The character of the postantibrachials presents a variation of rather interesting geographic variation. In our material from the southern part of the range, Honduras, Guatemala, Campeche, and Yucatan, the postantibrachials are very small and often granular, while in northern specimens they are greatly enlarged.

With regard to the application of a proper name to the specimens before us, any name other than *sackii* would lead to still greater confusion in this complex group. It seems best, for the present, to await a reassembling of all available material and a more critical examination of the various combinations of characters than that presented by Burt. The Salamá Basin population, which is probably typical of all the arid basins of central Guatemala, will probably prove to be distinct from any of the described races.

At San Gerónimo the junior author found this species in considerable numbers in the oak-pine zone on the lower mountain slopes and in the dryer parts of the valley among the scrubby vegetation.

***Gymnophthalmus birdi* Stuart**

San Gerónimo, UMMZ 84057 (type), 84058–84060 (paratypes).

As noted in the original description (Stuart, 1939, p. 3) this little scinc-like teiid was found on the valley flats in the loose earth in holes left by stumps which had been pulled by an Indian.

***Stenorhina degenhardtii* Berthold**

Salamá, FMNH 20666; San Gerónimo, UMMZ 84047.

Both specimens are males of the banded variety, with one mid-dorsal and a pair of lateral bands on each side. In the Field Museum

specimen these dark lines are visible only anteriorly. The specimen in the Museum of Zoology has postnasals and loreals fused, while these scutes are distinct in the Field Museum specimen; the ventrals and caudals are 162 and 34 and 164 and 41 respectively. The specimen in the Museum of Zoology was found near a small temporary pond in a *potrero*.

Leptodeira rhombifera Günther

Salamá, FMNH 20664-5.

These two specimens from Salamá, not far east of the type locality, Cubulco, agree well with the original description except that each has about ten more dorsal rhombs on the body. The male specimen, No. 20664, has ventrals 162 and caudals 84. The female, No. 20665, has ventrals 163, tail broken. The dorsal scale formula in both is 21-23-21-19-17.

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